Site Inspection

Workers shall inspect the site near to the tree

- Prior to conducting any work
- Whenever incidents occur that may change site
- Area that may impact or be impacted by falling wood
  - Guideline: 1.5X height of tree
- Identify potential site hazards to workers
- Identify potential targets within fall zone of tree

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Site Inspection

Common site hazards include:

- Electric lines
- Chemical storage
- Natural gas or petrol storage
- Tripping obstacles
- Vehicles
- Puncture hazards (fences, stakes, rebar, etc.)
- Steep terrain or pits
- Dangerous animals and insects
- Weather conditions

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Site Inspection

Common potential targets within fall zone of tree may include:

- People
- Vehicle
- Structures
- Valuable man-made or natural objects.

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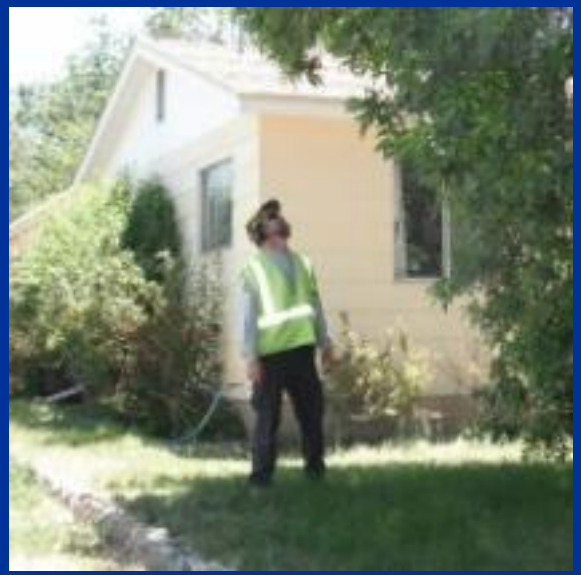
Work Plan

Based findings from inspections, develop work plan

- Safety first focus
- What work will be conducted
- Where work will be conducted
- Required tools and equipment, including PPE
- Work process and progression



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Work Plan

- Each workers' role, responsibility and location
- Communication plan and process
- Identification of all potential hazards
- Prescriptive safety measures for each job
    - Amend if work or site conditions change.

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Job Briefing

Meet with all workers involved with work and review:

- Work plan with emphasis on
  - Each workers' role, responsibility and location
  - Communication plan and process
  - Identification of all potential hazards
  - Prescriptive safety measures
- Ensure that all workers understand and can conform

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Good Communication

Safe work zone

- Landing zone
- Drop zone

Job Briefing

Do not commence work if all tasks cannot be conducted safely

- Adequate number and qualification of workers
- All required tools/equipment present & good condition
- Unsafe site conditions mitigated.

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Tool and Equipment Inspection

Workers shall inspect all tools and equipment prior to use

- Use only tools/equipment proper for the tasks
  - Do not adapt tool/equipment not designed for use
- Ensure that it is in good working condition
  - According to manufacturer's design and function
  - Use visual and touch methods

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Tool and Equipment Inspection

- Ensure no significant defects or damage
  - Thresholds must be adequately defined
- Re-inspect if incident occurs that may damage tool/equipment.

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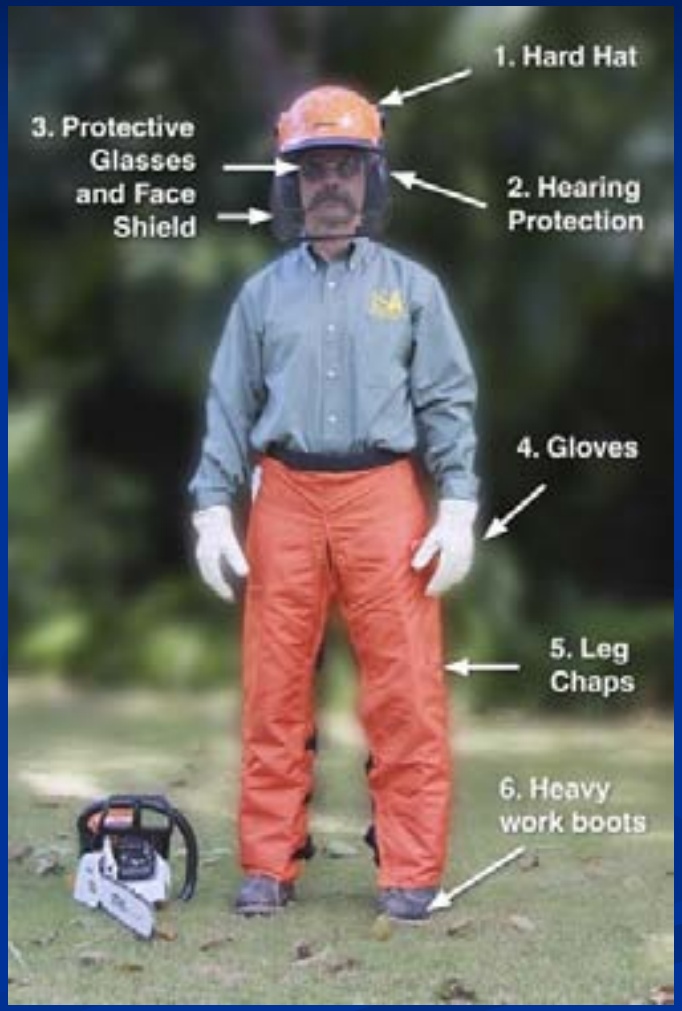
Personal Protective Equipment

Whenever recognized hazard exists:

- **Conform to National Standard**
- **Protect from exposures**



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Head Protection (Helmets)

Construction or electric class, conforming to OSHA standard

- Marker in helmet identifies standard

Inspect for:

- Cracks or holes
- Shock webbing
- Shell integrity

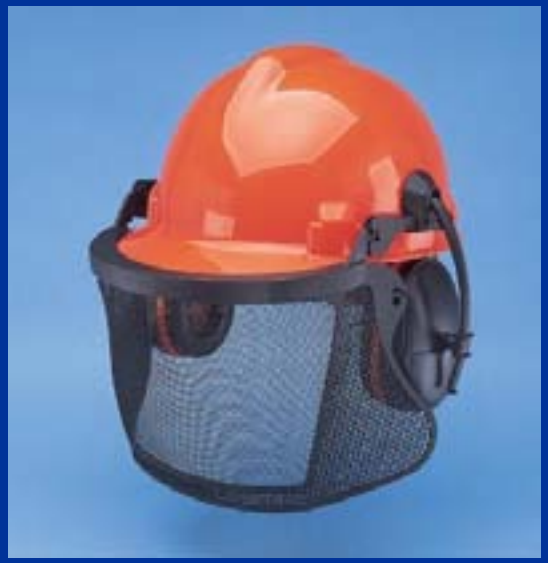
Eye Protection

Protect from projectiles and eye incursions

- Marker in glasses identifies if ANSI Z87.1 conforming

Inspect for:

- Clear vision
- Working condition



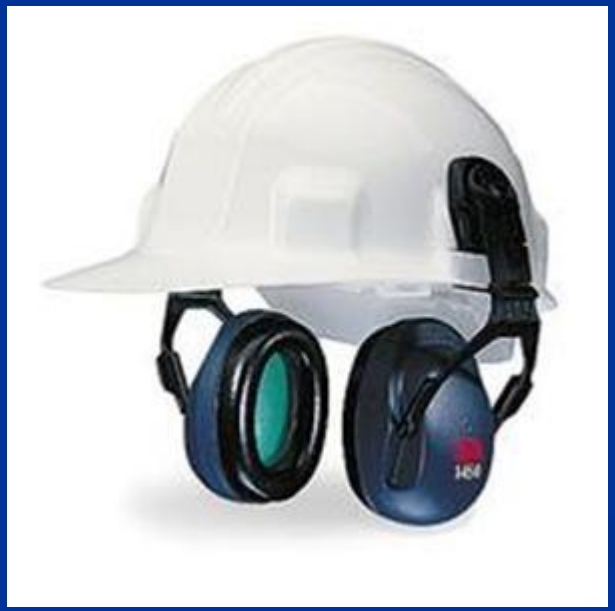
Hearing Protection

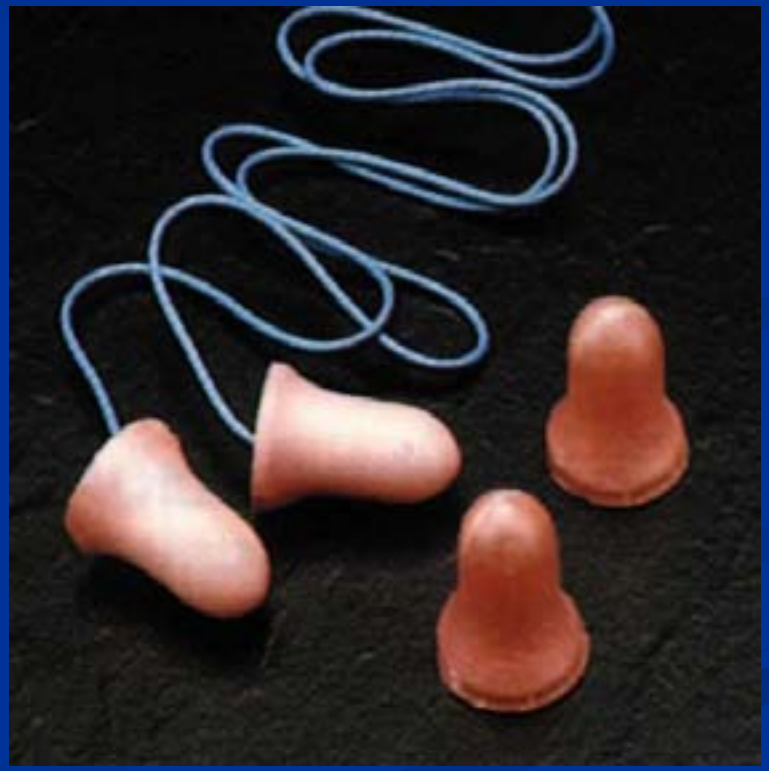
When noise levels exceed 85 decibels

- Label on container identifies noise levels protected
- Chain saws & chippers

Inspect for:

- Elasticity
- Proper seal





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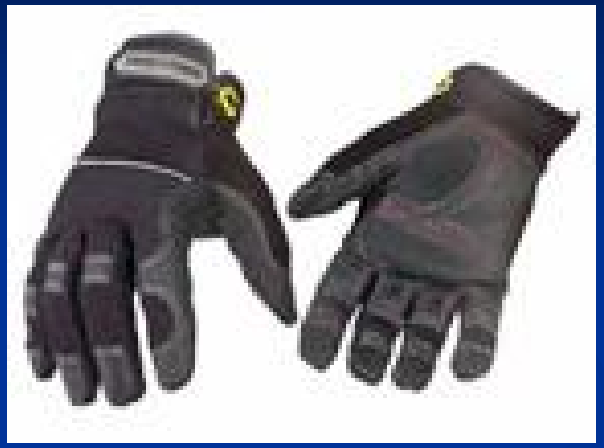
Gloves

Sturdy gloves

- Proper durability for hazard
- Proper size for worker

Inspect for:

- Cuts and damage



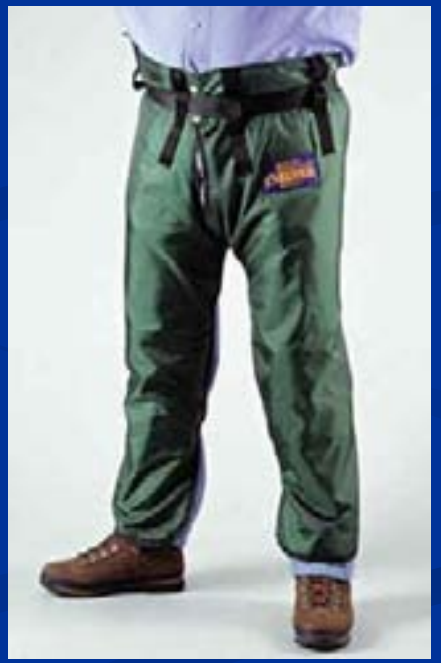
Chain Saw Chaps

Whenever using a chain saw on the ground

- Special mesh material
- Jam sprocket and stop chain
- Proper size for worker

Inspect for:

- Cuts of interior mesh
- Integrity of fasteners



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Work Boots

Sturdy, leather boots

- Tough cover
- Firm ground grip

Inspect for:

- Cuts and damage
- Proper sole attachment
- Sizing.

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General Safe Work Practices

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Working in Trees

Tree work is dynamic and variable

- No 2 situations are identical
- To identify proper work practices and safety procedures for each situation, tree workers must use:
  - Knowledge
  - Training
  - Experience
  - Good judgment

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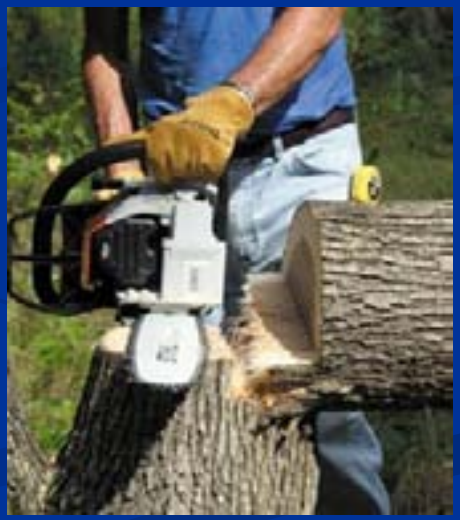
General Safe Work Practices

Prevent accidents

- Adequate tree and site inspection
- Establish safe work zone
- Two-way communications
- Electric hazard awareness
- Crushing avoidance
- Correct pruning and felling practices



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Adequate Tree-Site Inspection

Required by law and good judgment

- Comprehensive and thorough
- Identify potential hazards
- Avoid injury and property damage

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Establish Safe Work Zone

Barricade and protect workers and property

- Ensure all workers understand operations & restrictions
- Prevent unauthorized entry during work
- Manage work within barriers

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Two-way Communications

Establish and conform to procedures

- Define command and response system and language
- Apply whenever potentially hazardous activities occur
  - Examples: felling tree or branch, equipment movement

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Good Communication

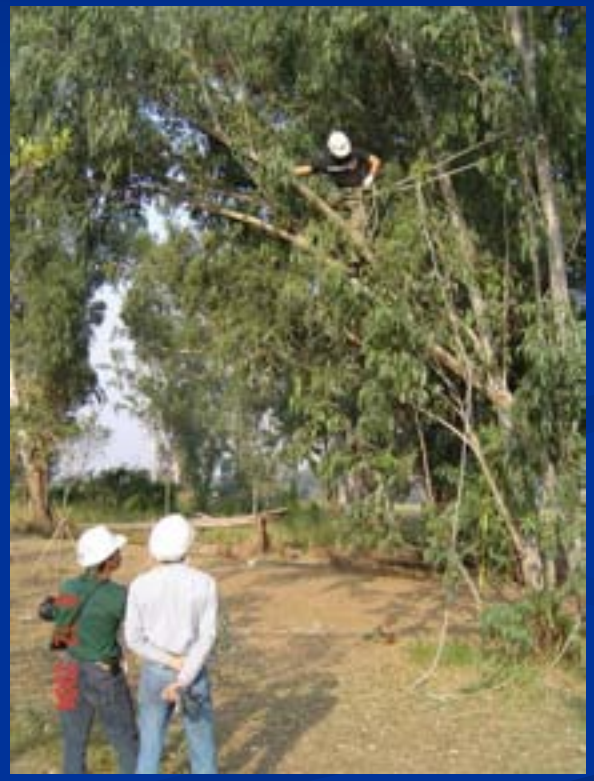
Command and Response System

- Warning signals given (“stand clear!” “headache!”)
- Response to warning (“all clear!”)
- Multiple workers may require one key worker to ensure clear and respond

Good Communication

Command and Response System

- Noisy work site
  - Hand signals
  - Whistles
  - Sticks
  - Throw "Cookies".



Crushing Avoidance

Monitor potential crush points

- Before move platform boom, check pinch points
- Use assistant to direct and guide equipment movement
- Carefully plan branch and tree felling

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Emergency Response - Aerial Rescue

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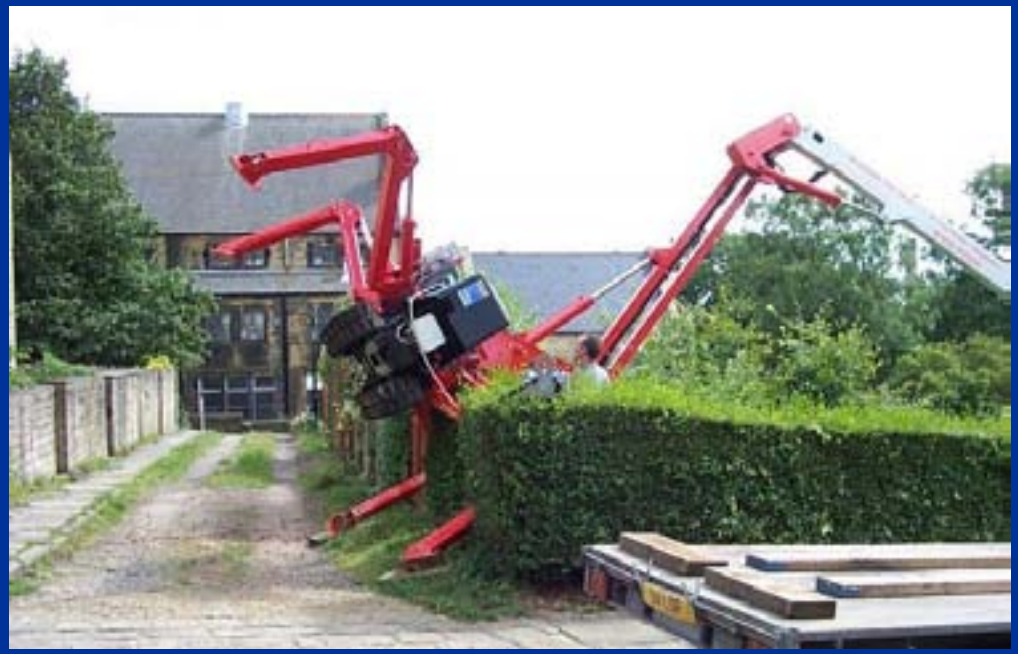
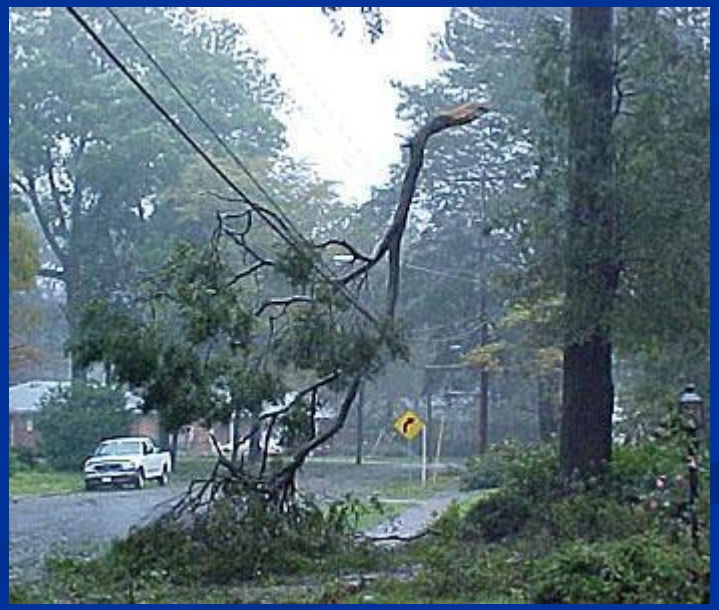
Whenever Emergency Occurs

- Suspend operations
- Secure the site – ensure all persons safe
- Notify emergency services
- If injuries, take appropriate action
- Take action to repair and recover





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Aerial Rescue

Issues and challenges unique to tree industry

- Victim often high above ground
- Often inaccessible
- Victim relies on co-workers
  - Quickly identify trouble
  - Safely and quickly lower to ground
  - Procure professional help quickly

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Knowledge Requirement

All workers must be trained and proficient in aerial rescue practices and procedures

- Never attempt aerial rescue unless you are sure it can be done safely

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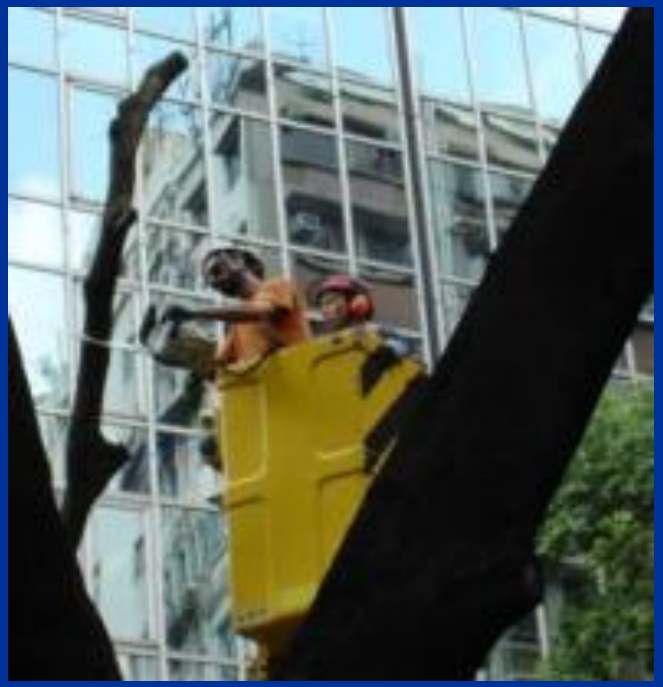
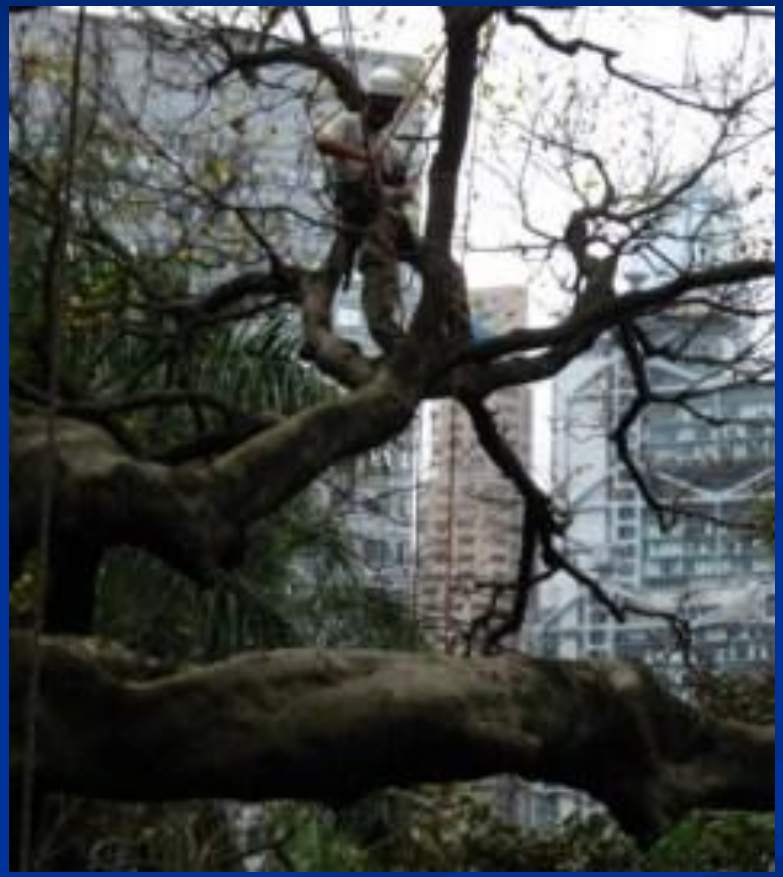
Rescue Planning

Plan every job as if you will need to perform an aerial rescue





Rescue Procedures

1. Verify incident – determine if worker requires help
2. Determine cause of injury
   - Ensure no longer a hazard
3. Use extreme caution to ensure rescuer does not become second victim

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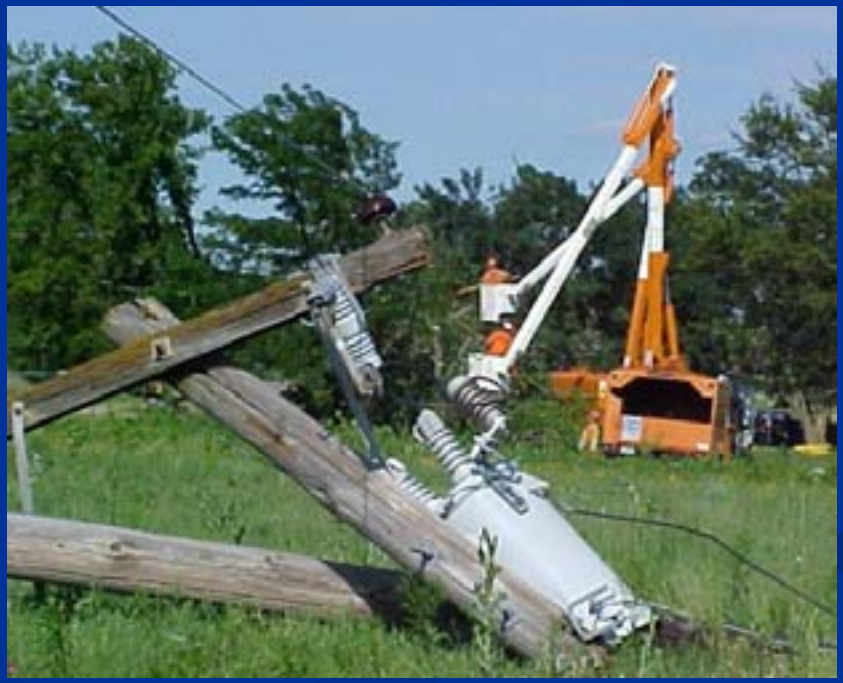
Rescue Procedures

4. If possible, recruit help immediately
   - Call 911
   - Most important action to get professional help ASAP



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Reaching the Victim

General rule: Safest, fastest method

- Speed is essential if:
  - Cardiac arrest
  - Heavy bleeding
  - No breathing
  - Other serious injury
- Brain damage ~ 4 to 6 minutes with no oxygen

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Emergency Equipment

Necessary equipment should always be handy

- Easily accessible (not in vehicle)
- In good condition
  - Clean, dry rope
  - Saddle
  - Throw-line and throwbag
  - Non-conductive ladder (?)
  - Pole pruner with non-conductive handle
  - Pocket knife
  - Climbing spurs

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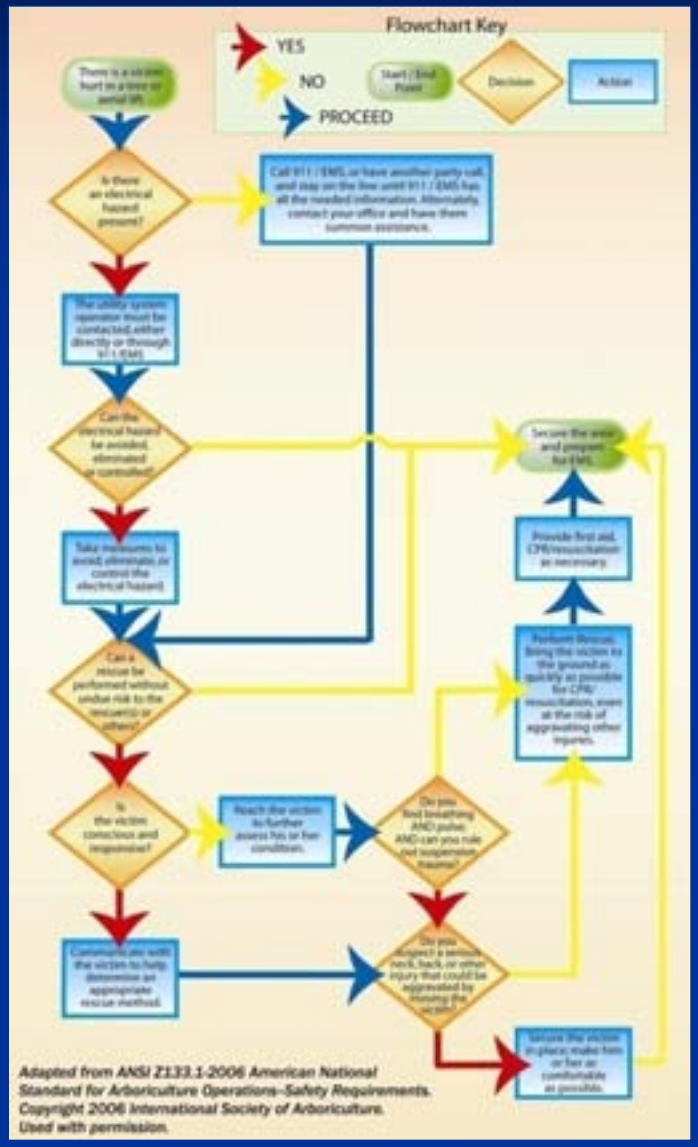
Aerial Rescue Flow Chart



From ANSI Z133.1-2006
Annex F

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Practice Aerial Rescue

Once per month at least

- Review procedures
- Physical drills
- Actual conditions
- Entire crew involved.

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How do Accidents Happen?

Root Causes

Taking "Shortcuts"

Experience Level (+/-)

?

Attitude

(Lack of) Communication

Lack of Competent Supervision

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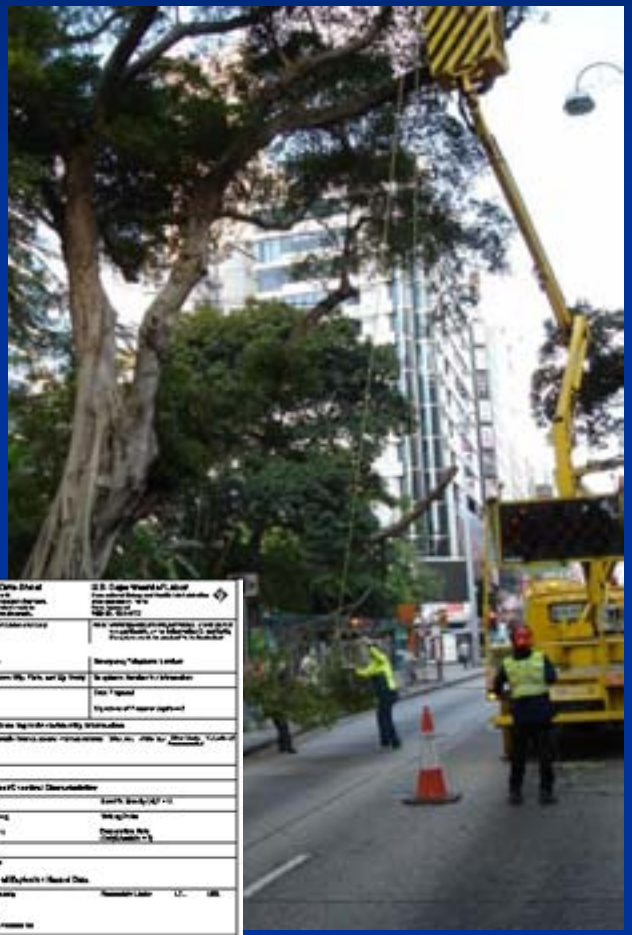
Safety Program Elements



Develop and maintain safety program

- Create a safety culture that helps employees to avoid hazards
- Management commitment
- Employee involvement
- Clear guidelines & training
- Inspection & maintenance
- Enforcement
- Documentation & follow-up

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Basic Rules

Do not conduct any tree work unless:

- Personnel properly qualified for the job being conducted
- Tree and site inspected & all hazards recognized and addressed
- Proper tools/equipment on-site & in good working condition
- All workers understand work plan and personal duties
- Conform to all safety practices for conditions at all times.

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Prevent Accidents

Consider 4 main factors:

- People – Qualified and committed – Proper attitude
- Tools – Proper for work in good working order
- Work technique – Safe and technically correct
- Work environment - Safe

People factor most important – Workers who disregard safety and ignore hazards are major cause of accidents.

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General Arboriculture Safety Standards and Practices

Always:

- **Work safe**
- **Work smart**
- **Conduct quality work**
- **Be professional**

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